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**NOTIFICATION**

**ACTION PLAN ON SOLID WASTE MANAGEMENT OF RURAL SIKKIM**

This shall come in force w.e.f. the date of publication in the official Gazette, Government of Sikkim.

**C. S. Rao, IFS  
Secretary  
Rural Management & Development Department**

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## 1. Introduction

Sikkim is a landlocked state in the north-eastern region of India and shares international borders with China, Nepal and Bhutan, and state boundary with West Bengal. Owing to its location in the Himalayan Mountainous region, the geography of Sikkim is diverse in the form of high mountain peaks and steep river valleys. Tucked between the Himalayan ranges, the state has mountainous terrain with elevation ranging from 280 meters to 8585 meters.

The climate of Sikkim varies from subtropical in the south to tundra in the northern parts. The tundra region in northern Sikkim is covered by snow for four months consecutively every year. The temperature during these winter months drops down to below 0°C. Most of the populated lower regions of Sikkim experience a temperate climatic condition with temperature ranging from 28°C in summer at times and dropping below 0°C in winters.

Sikkim has a rugged topography due to which there are very less flat lands. No flat area more than a few hundred square meters exists in continuity. This makes management of Solid Waste very challenging especially in terms of collection of waste from the households.

## 2. Overview

The Municipal Solid Waste (Management and Handling) Rules 2016<sup>(1)</sup> framed and notified by the Ministry of Environment and Forests makes it mandatory for stakeholders across the country to manage and implement these rules. Sikkim as a state, with our focus on cleanliness and sanitation has been consistently implementing the same with respect to management of municipal waste in the state. As per the survey conducted by the Forest, Environment & Wildlife Management Department<sup>(2)</sup>, it is estimated that waste generation per day in Gangtok and its surroundings is approximately 45 metric tonnes per day out of which a voluminous 60% amounted to solid waste in the form of biodegradable items.<sup>(3)</sup>

Notwithstanding the amount of waste generated in the urban areas of Sikkim, the waste generated in terms of solid biodegradable waste in rural parts of the state is considerably lower, owing to various reasons, including the consumption of biodegradable waste generated by domesticated animals and many resources traveling their way to open fields and in turn being converted to manure post degradation.

Sikkim, India's first Open Defecation Free State<sup>(4)</sup> and the cleanest state in the North East of India<sup>(5)</sup> is endeavoring to progressively work towards sustaining these benchmark and ensuring that we as a state showcase leadership from the front in terms of Solid Liquid Resource Management.

Nonetheless there have been challenges in the recent times and also challenges for the future for rural Sikkim in terms of waste or resource management owing to the aspects related to a boom in tourism<sup>(6)</sup>, rapid commercialization of rural landscape, non recyclable plastics in the form of chocolates and related items<sup>(7)</sup> and grey water management.

1. [http://www.moef.nic.in/content/so-1357e-08-04-2016-solid-waste-management-rules-2016?theme=moef\\_blue](http://www.moef.nic.in/content/so-1357e-08-04-2016-solid-waste-management-rules-2016?theme=moef_blue)

2. [http://sikenvis.nic.in/Database/SolidWaste\\_789.aspx](http://sikenvis.nic.in/Database/SolidWaste_789.aspx)

3. [http://sikenvis.nic.in/Database/SolidWaste\\_789.aspx](http://sikenvis.nic.in/Database/SolidWaste_789.aspx)

4. <https://thenortheasttoday.com/archive/did-you-know-this-northeast-indian-state-was-the-1st-odf-open-defecation-free-state-in-india/>

5. <https://nenow.in/north-east-news/sikkim-emerges-cleanest-state-northeast-east-district-also-bags-award.html>

6. <https://www.hindustantimes.com/travel/world-tourism-day-2018-sikkim-paradise-untapped-top-15-places-to-visit-in-sikkim/story-LFWSzrbrS43SI331MzK0rL.html>

7. <http://www.worldenvironmentday.global/en/news/how-indian-state-sikkim-working-end-plastic-pollution>

These are issues which need to be dealt with in urgent priority and it is for this matter that a robust framework in the form of guidelines has been discussed and framed for tackling the issues of Solid Liquid Waste Management in rural Sikkim.

### 3. Demographics

The total area of the state 7096 km<sup>2</sup> and 82.31% of the total geographical areas of the state is under the administrative control of the State Forest Department. Total forest and tree cover of the state as per the latest India State of Forest Report, 2017 is 3379 km<sup>2</sup> (47.62% of the total geographical area of the state). The state has 4 Districts, 9 Sub-divisions, 32 Blocks and 185 Gram Panchayat Units. The District wise population as per the census is as follows:

Sl. No.	District	Total No. of Persons	Population density/km <sup>2</sup>
1.	North	43354	10
2.	West	136299	117
3.	South	146742	196
4.	East	281293	295

### 4. Objectives

1. To provide directions to the stakeholders in terms of understanding the policies of the Government of Sikkim in areas of managing Solid Liquid Resource in the state
2. To reinforce and further highlight the aspect of sustainability of an Open Defecation Free State
3. To guide the stakeholders towards the concept of zero waste and to bring it to practical purposes
4. To engage towards eco efficient sustainable practices which could lead to the further reduction of waste in our villages
5. To empower local communities to further their role as informed and aware citizens and proactively work towards a sustainable Sikkim in terms of SLWM in the future.

### 5. Ethos

Sikkim, the second smallest state in the country is also one of the most progressive states of India with a literacy rate of 96.72%<sup>(8)</sup> and a Gross State Domestic Produce of 3.3 billion<sup>(9)</sup>. Owing to these two aspects, there has been rapid growth and progress in the state. Enormous progress has also led to people from several parts of the country coming to the state for economic pursuits and this has led to a worry in the field of solid liquid waste management, be it urban or rural Sikkim. It is an endeavor through the guidelines to ensure that a framework is followed to bolster the Open Defecation Free status of the state and to further the idea and implementation of sustainability.

The Rural Management and Development Department has endeavored to provide *guidelines and action plan* to both Solid Waste Management and Liquid Resource Management

8. <http://echoofindia.com/gangtok-sikkim-has-literacy-rate-9672-says-hrdd-140587>

9. [https://en.wikipedia.org/wiki/List\\_of\\_Indian\\_states\\_and\\_union\\_territories\\_by\\_GDP](https://en.wikipedia.org/wiki/List_of_Indian_states_and_union_territories_by_GDP)

in the State of Sikkim. It has also endeavored to work towards the concept of ecologically sustainable practices and the use of local resources, whenever and wherever applicable.

## 6. Waste in Rural Areas

Sikkim is primarily an agricultural state with more than 70% of the state living in rural areas. Their lifestyle is predominantly agrarian and that livestock is a part of their daily engagement. The rural areas falling under the 32 blocks spread across the state are sparsely populated and people are mostly engaged in the agricultural sector.

The consumption pattern of the people in rural areas vis-à-vis, urban areas also differ drastically and thereby the amount of solid waste generated also differs in composition accordingly. The type of waste generated in rural areas also consists of both dry and wet waste. However, due to a mechanism of human-animal habitation, most of the wet waste, especially vegetative waste, either is consumed by the domesticated animals at home or is dumped in the compost pits which in due course of time, automatically decomposes to become compost.

The management of Wet Waste is relatively easier in rural landscapes and the amount of wet waste generated in rural areas is negligible. However, there is challenge in rural areas regarding non biodegradable plastic wastes which come in the form of packed food items including edible chips and small sachets strewn across the countryside. However, the volume of plastic generated as waste is comparatively lower in rural areas as compared to urban settings.

### 6a. Current Status of Waste in Rural Areas

In Sikkim, majority of the organic fraction of the waste is being used for feed for livestock and converted to manure to be used for organic farming in the state. The quantification of the waste has been done in each block level and details are as follows:

Sl. No.	District	Block	Estimated Waste
1.	East	Martam	1.79 MT/day
2.	East	Khamdong	40sacks/day (1000kg approx. @ 25kg/sack)
3.	East	Nandok	NA
4.	West	Chongrang-Tashiding	NA
5.	West	Yuksom	NA
6.	West	Hee-Martam	1.62 MT/day
7.	West	Dentam	1.04 MT/day
8.	West	Kaluk	125 kg/day
9.	West	Soreng	NA
10.	West	Chumbong	433.1 kg/day
11.	West	Daramdin	341.52kg/day
12.	West	Managalbarey	NA
13.	North	Kabi	67.5 kg/day
14.	North	Mangan(Ringhim- Nampatam)	748kg/day
15.	North	Passingdong	203 kg/day

16.	North	Chungthang	80kg/day
17.	South	Sumbuk	NA
18.	South	Yangang(Sripatam- Gagyong)	NA
19.	South	Wok-Sikkip	NA
20.	South	Ravong	1.06MT/day
21.	South	Temi	1.65MT/day

#### 6b. Waste Collection in Rural Areas

Solid waste from each Gram Panchayat Unit is collected by Resource Recovery Vehicles (RRV) from designated collection point by alerting the residents using bell or whistle on a pre-decided schedule. The waste are then transported to Material Recovery Facility (MRF)/RRC for further segregation, sorting and recovery of recyclables and stored temporarily for sending it to authorized recycling facility.

At present three such facilities are established in the state and rest of the 29 blocks are in the process of setting up the facilities. The management of solid waste in rural area was not specified in the previous Solid waste rules i.e., Municipal Solid Waste (Management & Handling) Rules, 2000 and after the notification of the revised Waste Rules i.e., Solid Waste (Management) Rules, 2016; rural areas are also covered under the provisions of the said rules.

In order to comply with the provisions of the rules and ensure proper management of solid waste generated from rural area, Detailed Project Report/ Action Plan have been prepared by all Blocks (32 nos.) in the state as laid down under Rule15(a) of the Solid Waste (Management) Rules, 2016.

Cluster of villages under a Block are provided with RRV and waste are collected in a designated MRF. Mostly dry waste is collected from these areas which can be stored for longer duration at the MRF without any significant pollution (odour, leaching, pilferage and scavenging by animals both domestic and wild).

The waste (non-biodegradable) generated in market zones of these rural areas are also channelized in similar manner. Biodegradable waste generated in such zones is collected by local farmers for utilization in farms. However, few industrial units located in rural areas are managing their waste by engaging the authorized agencies. No industrial wastes are collected by rural authorities.

In case of Bio-medical wastes generated by Health facilities in rural areas area also not collected by the local authorities as such waste are treated in-house under the provisions of the Biomedical Waste (Management) Rules, 2016. The State Government has banned burning of agricultural waste, plastic waste, litter, paper waste and garbage through Notification No. 196/FEWMD dated 05/01/2015, Gazette Notification 13 dated 27/01/2015.

The Government has also banned use of bottled water in state functions vide Gazette Notification 25/Home/2016 dated 19/05/2016. The use of filter water is encouraged during public functions. Similar initiatives have been undertaken by few GPUs as well. Likewise State Government has also banned use of Styrofoam materials vide Gazette Notification no. 26/ Home/2016 dated 19/05/2016. Further, the state has also banned the manufacture; sale and use of firecrackers vide Notification no. 544 dated 19/12/2014.

## **6c. Treatment and Disposal of Solid Waste**

As all the cluster of villages under Block level with population of less than 1 lakh, separate solid waste treatment & disposal facility is not practically feasible. Hence, after segregation & sorting the waste collected at MRF / RRC is disposed off at disposal site in Martam, East Sikkim, Sipchu for South and West Districts and currently the required facility is coming up for North District.

At present among the 7 ULBs, 53 wards, about 89% are practicing segregation at source of solid waste after training and IEC activities, cluster wise in a phased manner. Each BAC will be equipped with one or more RRV depending upon the number of GPUs under its jurisdiction or the quantity and frequency of waste generated. The goal is to set up MRF in each block in order for effective waste segregation and proper disposal. Each of the blocks have been directed by the department to submit a DPR for effective solid waste management in their jurisdiction.

The department has also approved three Models for construction of MRF / RRC. All blocks are to adhere to these models for effective implementation of solid waste management practices. Solid waste will also be collected by installation of wire nets in drains to ensure no solid or plastic wastes reach the river system and the collected waste will be channelized to the nearest MRF.

After further segregation recyclables are sent to authorized recyclers and inert materials are to be disposed at common disposal facility. Further it is proposed that for the maintenance of the common disposal facility there shall be a pooling of funds on Cost Sharing Basis with all Blocks.

## **6d. User Fee Collection**

Sustainability in terms of economical sustainability in terms of waste collection has been the larger greater objective of the Department. Over the last few years, the endeavor has been to ensure collection of user fee of and disposal of solid waste so that there is more accountability towards waste generation and management from the stakeholders too.

For this a user fee is charges from each household towards the generation of revenue for maintenance of the facility. Sensitization of tourists visiting rural areas is also done by vehicle drivers and communities to ensure minimum littering in the tourist spots which also include eco-sensitive zones with some places of interest providing tickets to enter these places which also adds to the maintenance of the area/s.

The Department has also framed bye-laws for implementation of the Solid Waste Management Rules, 2016. The Bye-laws also prescribe the criteria for levying of spot fines/ penalties for persons who litters or fails to comply with the provisions of these rules.

## **7. Regulatory Measures to ensure proper Solid Waste Management**

The efficiency of the implementation of rules and state policy will crucially depend on the following regulatory measures:

- i. Vigilant monitoring mechanism of solid waste generators to ensure that segregation at source is complied.

- ii. Ensure that institutional and commercial space also practice segregation at source.
- iii. Implement door to door collection of waste to ensure that vacant plots, drains and jhoras are not littered; spot fines/penalties may be imposed on those found to be non-complying.
- iv. Ensure that domestic hazardous waste is also deposited in the designated bins placed at specific locations by the local body.
- v. The sanitation workers are to be provided with uniforms, identity cards and personal protective equipment.
- vi. To ensure that reduction of waste is also a priority along with reuse and recycle.

## **8. Initiatives taken at BAC level**

The Rural Management and Development Department in its effort towards continued enhancement in its ground report engages the BAC level with different engagement activities through the year. Majority of BACs across Sikkim are proactive in their engagement approach and that they in their own, conduct several initiatives and interventions towards furthering the cause of Solid Liquid Waste Management.

Waste Management is the crux of each of the BACs and the teams under the guidance and leadership of the ADC (Development) and Block Development Officer (BDO) have been taking initiatives at their levels.

The Department is in receipt of 32 DPRs on proposed waste management at each Block which includes collection, transportation, segregation and final disposal of solid waste. Out of the 32, 21 DPRs have been approved by the department.

## **9. Initiatives taken at Panchayat Level**

To ensure further accountability at the lowest of the communities towards SLWM, a Model bylaw for Solid Liquid Waste Management for Gram Panchayats across Sikkim has been initiated and approved during the respective Gram Sabha.

### **9a. General**

1. The jurisdiction of the bylaw is limited to solid waste management of the villages and hamlets within Gram Panchayat Unit/s.
2. These bylaws are prepared keeping in view the Constitution of India (Articles 243G, 243H, 243I, and 280) and the Guidelines of the Swachh Bharat Mission (G) for solid waste management in rural areas.
3. The Village Water and Sanitation Committee/s (VWSC/s) is hereby appointed Executive Authority to plan, collect, treat and dispose kitchen wastes, and other domestic waste generated by households, shops and other establishments within the boundaries of the Panchayat/s.
4. The VWSC/s shall put in place a proper system for solid liquid waste management for this GP/s. It/They shall fix terms and rates under which wastes generated by residents shall be collected and disposed in a manner that is healthy, and overall cleanliness of the village/s shall be maintained.

5. Solid waste generated by households, shops, restaurants, hotels and other establishments, within the GP/s shall be handled by a team of sanitation workers trained and appointed by the VWSC/s with the approval of the Gram Sabha/s on terms set out in this bylaw (and related rules to be intimated when required).
6. Differential rates/service charges will be applicable to different category of residents such as households, tea stalls, village restaurants and eateries, hotels, social gatherings (marriage, festivals, religious functions, meetings etc) schools and offices if any, vegetable markets, mutton and chicken stalls, grocery shops, weekly hawkers and street vendors etc.
7. Additional service charges will be levied/collected during household/hotel/school/office functions village fairs etc. when huge amount of additional waste is generated.
8. The above service charges will be proposed by the VWSC/s and approved by the Gram Sabha
9. The rates shall be revised once a year to reflect changes in the cost incurred in solid waste management services.
10. Revenue collected for providing solid liquid waste management (SLWM) services shall be used only for the purpose of operation and maintenance of the said services including the workers' salary, employed additionally or made to work for extra hours for this purpose.
11. Any person who breaches this bylaw shall be liable to a fine as approved by the Gram Sabha.

## **PART – II**

1. The GP/s shall do a survey and sort out residents under different categories (See User Category below). There will be a series of community education programmes conducted with the help of Block level staff of the government (or an NGO) involved in sanitation promotion (SBM) activities, KRCs (SIRD and other identified institutions) and SBM (Gramin) Cell, RM&DD.
2. Residents/Households, shops etc. of the GP/s shall be intimated - on which category they fall under, for the payment of service charges for SLWM – preferably on a monthly basis (or as agreed upon/as approved by the Gram Sabha).
3. Every independent kitchen shall be considered as a household in this case.

### **9b. User Category**

- i. Households
- ii. Tea stalls
- iii. Village restaurants and eateries
- iv. Hotels
- v. Community halls
- vi. Vegetable markets
- vii. Mutton and chicken stalls / Fish markets

- viii. Grocery shops
- ix. Weekly Haat day hawkers
- x. Street vendors (Chanawalas / Pani puriwalas /Tea and Momo vendors etc)
- xi. Schools and offices, if any
- xii. Temples, churches, mosques, monasteries etc. (unless they have their own waste disposal arrangement)
- xiii. Tourist attractions / Tourist Sites
- xiv. Others

#### **9c. Technical Stipulations**

1. The Gram Panchayat/s will reinforce the Government's notification on ban of plastic bags, disposable styrofoam containers and use of packaged drinking water during departmental meetings and functions. They will also pass a resolution to charge penalty in case of non-compliance.
2. The VWSC/Gram Panchayat will seek cooperation of community to carry reusable cloth bags, and insist on shopkeepers to use only biodegradable alternatives, in order to help the buyers who forget to bring cloth bags
3. Every household shall be provided with three coloured bins/bags – one for WET WASTE, one for HAZARDOUS WASTE and the other for DRY WASTE. Households will be educated on which waste goes into which bin/bag, and the intervals at which collection will be done.
4. Primary Segregation shall take place at the source where waste is created (e.g. household level). Secondary segregation shall take place at Resource Recovery Centre (RRC) of the GP.
5. The responsibility of each category of SLWM service users is provided separately.
6. Special arrangements should be made for cleanliness during social functions.

#### **9d. Inspection**

1. Respective Ward Panchayat along with the members of VWSC (or a supervisor appointed for this purpose) shall pay inspection visits to make sure that the community members, shopkeepers and others keep their surrounding clean.
2. They shall also make personal visits to educate the residents / shop owners who repeatedly mix up their wastes, or do not cooperate, as and when reported by the sanitation workers.
3. Respective Ward Panchayat along with the members of VWSC (or a supervisor appointed for this purpose) shall also make regular inspection of public areas like Jhoras and other vulnerable public spots where people tend to throw garbage irresponsibly.

#### **9e. Payment for Services**

1. The tariffs/rates set for the SLWM services with respect to different users will be proposed by the VWSC/s as deemed fit and approved by the Gram Sabha.

2. The service charges for SLWM shall be payable to the sanitation worker (or sanitation supervisor) on an appropriate day as suggested by the VWSC and approved by the Gram Sabha.
3. A receipt shall be compulsorily issued to the service charge payers.
4. The charges for SLWM service under the terms and conditions laid down in the bylaw, if not paid by the party concerned within the stipulated time shall be recoverable on the terms as approved by the Gram Sabha.

**9f. Non-compliance:**

1. Where the residents are found not abiding by the Bylaw for SLWM and are throwing waste on the street corners, jhora, drainage, open space, vulnerable spots etc, shall be liable to pay penalty as approved by the Gram Sabha.
2. Any resident, household as well as non-household, who repeatedly gives mixed waste, thereby failing in primary segregation will be penalized with fines as approved by the Gram Sabha
3. In the event of a resident's persistent non-cooperation, the Panchayat may take the extreme step to discontinue various government benefits as approved by the Gram Sabha.
4. Waste bins/bags given for SLWM purpose shall not be put to any other use, causing SLWM to suffer. In such an occurrence the amount spent on the bins/bags shall be recovered at double the price.

**9g. Penalty**

1. Anyone willfully or negligently violating the rules as specified in the Bylaw for SLWM shall be penalized with a fine ranging from Rs.500/- to Rs.2000/-
2. The VWSC/Gram Sabha may also decide differential penalties in the case of one time violation, and repeated non-compliance / negligence.

**9h. SLWM for Cluster GPUs**

1. For sustainability, GPUs in contiguity will be clubbed to form a cluster for SLWM Project. The Block Programme Management Unit (BPMU) under the operational guidelines of the SBM (G) will be responsible for the overall functioning and monitoring of the cluster SLWM project.
2. In case the project involves 2 or more blocks then the District SBMG Management Committee under the operational guidelines of the SBM (G) will be responsible for the overall functioning and monitoring of the project.
3. The Block Programme Management Unit (BPMU) and District SBM (G) Management Committee will have to maintain all books of accounts for their respective cluster project.
4. The roles and responsibilities of the Block Programme Management Unit (BPMU) and District SBM (G) Management Committee will be the same as VWSC for the project.

**9i. Roles & Responsibilities of VWSC/BPMU/ DWSC/District SBM (G) Management Committee**

1. Conduct a survey for categorizing the community and understanding the amount and type of waste generated by the Gram Panchayat/s.
2. Identify land for Resource Recovery Centre (RRC), Composting and Landfill.
3. Prepare Solid Waste Management Plan for the Gram Panchayat/s along with different categories of service charges and penalties to be imposed.
4. Conduct regular meetings and explore scope of convergence with other programmes.
5. Place the SLWMP and proposed service charges in the Gram Sabha/s for approval.
6. Conduct mass awareness of the SLWMP through meetings with various groups, school programmes, IPC etc
7. Appoint/Engage sanitation workers communicate their responsibilities and train them.
8. Arrange for establishment of appropriate RRC, Composting & Landfill.
9. Arrange segregation and sale of recyclable wastes.
10. Make sure that only about 10 – 15% waste ends up in a sanitary landfill / being incinerated.
11. Make sure the village streets, street corners, and vacant places are clean and that everyone cooperates to maintain cleanliness. Frequently inspect vulnerable spots.
12. Arrange for frequent clean up drives of jhoras and other public areas which does not fall under any user category, in cooperation with the residents or the local NGOs.
13. Collect service charges regularly and spend the amount as pre-determined for operation and maintenance of the project.
14. Promptly attend to community grievances so as to ensure their continuous cooperation.
15. Sustain the work, and make it a regular habit among the residents not to litter in open places / drainage canals etc.
16. Regular monitoring and motivation of the individuals to inculcate proper sanitation habits.

**9j. Responsibilities of Households/Residents**

*The following are responsibilities of households and others except marriage halls.*

1. Each household shall segregate waste into wet waste (kitchen waste), hazardous waste and dry waste (other wastes) and put in the bins/bags given specifically for each purpose. This is called primary segregation, which shall take place at the household level. Those who repeatedly give mixed waste will be penalized.
2. As far as possible, the leftover food items such as fish bones, mutton and chicken bones may be given to cats / dogs, if available at the households. This is a way to deal especially with leftover food at household level. Otherwise, they may be wrapped in a newspaper and handed to the sanitation workers.
3. Kitchen waste such as vegetables peels, fruit peels, eggshells, used tealeaves, leftover cooked vegetables on the plate should be put in wet waste bin. **Never put these items in plastic bags.**

4. It is always good to wash inside of a milk packet with water. Washed milk cover renders it easy for the sanitation workers to deal, as it does not smell. Moreover, if an unwashed milk cover ends up on the street, the animals tend to eat the cover because of the milk smell, which is extremely dangerous for the animals.
5. Certain items such as sanitary pads, children's diapers, and condoms shall be wrapped in newspapers, or some papers available (put a red [X] cross mark) before it is handed to the sanitation workers, who shall take them to bury in sanitary landfill/incinerate them. Marking helps easy identification so that the sanitation worker shall not open it. These items should not be wrapped in plastic bags.
6. The sanitation workers (in uniform) will visit every households/non-households and ring a bell to let the residents know that the waste is being collected. It is the responsibility of each resident to give the bins/bags to the sanitation workers, who shall empty each bin into separate containers.
7. The complaints, if any, from the residents may be written in the complaints book available in the Gram Prashasan Kendra (GPK). The residents may also call up the mobile number available in the cash receipt of service charges for waste management.

#### **9k. Responsibilities of Sanitation Workers**

1. The sanitation workers shall collect the waste from the household/non-household and transport it to the Resource Recovery Centre (RRC) for secondary segregation. The secondary segregation will involve segregating the dry waste into different types of recyclable items. The wet waste will be composted and the hazardous waste will be incinerated/landfilled. Additional manpower may be employed at the RRC as per the requirement.
2. The sanitation workers shall collect service charges and give account to the VWSC/s Secretary. They will also follow up with those who have not paid or have been penalized by the VWSC.
3. The sanitation workers shall also keep note of households / shopkeepers non-households who do not cooperate or violates the bylaw, and report to the VWSC/s.

### **ANNEXURE**

#### **1: DISTRICT SBMG MANAGEMENT COMMITTEE**

- |   |               |
|---|---------------|
| 1. Zilla Adhyaksha                                    | Chairman      |
| 2. District Collector                                 | Vice-Chairman |
| 3. Concerned area MLA                                 | Member        |
| 4. Zilla Up-Adhaykasha                                | Member        |
| 5. One Zilla Panchayat (Nominated by Zilla Adhakshya) | Member        |
| 6. One GPU President (Nominated by Zilla Adhakshya)   | Member        |
| 7. ADC (Dev) Sub district                             | Member        |
| 8. Superintendent of Police                           | Member        |
| 9. DFO (T)  | Member        |

10. JD, HRDD	Member
11. CMO	Member
12. All department heads at district	Member
13. All BDOs	Member
14. ADC (Dev) located at district HQ	Member Secretary

## **2: BLOCK PROGRAMME MANAGEMENT UNIT (BPMU)**

1. Block Development Officer	Chairman
2. Concerned Zilla Panchayat Members	Member
3. Concerned Panchayat Presidents	Member
4. President of One GPU (to be nominated by BDO)	Member
5. Medical Officer, PHC	Member
6. AD, HRDD	Member
7. ACF concerned	Member
8. AE, RM&DD at GVK	Member
9. AD Panchayat	Block Coordinator

## **3: VILLAGE WATER & SANITATION COMMITTEE (VWSC)**

1. Sabhapati (Panchayat President)	Chairman
2. All elected representatives of the Gram Panchayat	Members
3. Village Administrative Assistant (RDA)	Member Secretary
4. Head Master of Schools	Member
5. Panchayat Inspector of the concerned BAC	Member
6. Junior Engineer of the Gram Panchayat	Member
7. All ASHAs of the Gram Panchayat	Member
8. In-charge, concerned PHSC	Member
9. ANM	Member
10. VLW	Member
11. Forest Guard.	Member
12. Barefoot Engineer/Plumber	Member

### ***Selection of expert advisory members:***

A maximum of 3 expert advisory members needs to be selected. These can be retired officials, Bharat Nirman Volunteers (BNVs), members of some local NGO, CBO, SHG or any other person who have good knowledge of the sector. These experts have to be identified by the GP's elected representatives and approved by the Gram Sabha.

## USER CATEGORIES

The following is a suggestive table for different user categories to be proposed by the VWSC and approved by the Gram Sabha.

Sl. No.	User Category	Service Charge	Remarks
I	Households		Payable monthly
II	Non-Households		
1	Tea stalls		Payable monthly
2	Restaurants and eateries		Payable monthly
3	Hotels		Payable monthly
4	Community halls		Payable after every function
5	Vegetable markets		Payable monthly
6	Mutton & chicken stalls / Fish markets		Payable monthly
7	Grocery shops		Payable monthly
8	Weekly Haat day Hawkers		Payable weekly
9	Street Vendors (Chana walas etc)		Payable monthly
10	Schools and offices, if any		Payable monthly
11	Tourist attractions if any.		Payable monthly
	Temples, churches, mosques monasteries, etc. (unless they have their own waste disposal arrangement)		Payable monthly Collected from the committee/trust
12	Others (such as dispensaries)		Payable monthly
III	<b>Social functions amount of waste producing huge</b>		Payable after each function, based on the quantity of waste generated

### 10. Principles of Management

#### 10a. Effective Segregation, Collection and Transportation

It is but important that there is effective segregation at source at the first level. For this there have been several awareness campaigns and demonstrations by stakeholders including the Department, Non Governmental Organizations and Developmental workers in rural areas across the state. The concept of sustainability and Zero Waste practices has been time and again reinforced amongst the people living in rural communities. These interventions have been successful in many parts of rural Sikkim and constant intervention for reinforcement is the need of the hour.

On the collection part, it has to be noted that the rural terrains are uphill and circuitous with the ability of vehicles reaching every doorstep or communities almost an impossible task. The Department has been encouraging people to bring their waste (dry especially) while they

come to the nearest markets and dispose the waste off to a designated disposal centre. There has been encouraging results on the same with a lot more mindset changes required in the rural spaces.

Transportation for the waste is done in the form of a mini truck or a large one periodically (once/twice a week) from the designated rural areas and taken to the landfill. Households and school students are further directed towards the concept of Zero Waste to reduce the amount of waste going to the landfill by reusing items and making commercial products out of waste.

The collection of waste is done by the ones whose trucks are commissioned for carrying these wastes. While the Department has endeavored to provide a vehicle to clusters of GPUs across Sikkim, where there are no Government designated vehicles, private carriers are utilized for the same.

#### **10b. Regulatory Measures**

The Rural Management and Development Department has believed in participatory methods of engagement in terms of SLWM in community practices. Along with participation, there is a need to also counter exigencies and ensure that the initiatives are taken care of at the best ways possible. For that a set of regulatory measures have been discussed so that there is minimum level of solid waste in areas which have not been designated as dumping sites.

1. A check on the Solid Waste generated in households and their disposal is indeed important. Due to availability of forest land in the neighborhood, many families in rural areas tend to either dump their solid waste in these areas or burn them. Strict vigilance and monitoring has to be ensured and stringent laws applied to the defaulters.
2. Segregation at source should be made compulsory by passing resolutions at Gram Sabhas so that there is accountability amongst families
3. Electronic Waste and hazardous waste (if any) at homes needs to be handled carefully and should be given to the nearby Resource Recovery Centres
4. Sanitation Management Committees (SMCs) to be constituted by Gram panchayats with powers enshrined to punish the offenders

#### **10c. Resource Recovery Centres**

The Department in its process of having Resource Recovery Centres in all blocks of Sikkim so that the Solid waste (non biodegradable) that is generated in the Gram Panchayat units is further processed into utilizable resources. These centres would be working on the principles of Zero Waste Management.

#### **10d. Hospitals/Pathological Labs/Health Care Centres**

Health Centres generate biomedical waste along with the other wastes and it is but important that their disposal is taken into careful consideration. The health centres falling under rural areas across Sikkim will be directed to refrain from throwing any bio medical waste in the open or in the jhoras or canals. Further directive to these establishments to ensure that the

patients and their parties coming to the medical centres are provided color coded dustbins so that they efficiently dispose their wastes.

#### **10e. Construction and Demolition Waste**

Proper disposal of debris of construction and demolition is one of the pertinent challenges in rural areas. Some of the measures which will be taken are as under –

1. All debris disposal from construction site shall go to the landfill designated by the Department and no large debris is thrown in forest land or other's private plots without the consent of the department and the owner
2. All storage of the debris is done appropriately so as to not block traffic and also choke the jhodos due to the flowing of the same inside the jhoras
3. In case of less quantity of debris, a pay and dump policy in designated spaces shall be implemented by the local Panchayats so that revenue generated is used in the maintenance of the local Panchayat office and the likes
4. A time frame to be prescribed by the local Panchayat for the removal of debris from the construction site
5. Failing to remove the debris from the site at the prescribed time, a penalty to be levied upon by the Panchayat to the responsible individual

#### **10f. Plastic Waste Management**

Safe disposal of waste plastic is a serious environmental problem. Being a non-biodegradable material it does not decay over time and even if dumped in landfills, finds its way back in the environment through air and water erosion, can choke the drains and drainage channels, can be eaten by unsuspecting grazing animals causing them illness and death, can contaminate the construction fill, etc. The best way of disposal of waste plastic is its recycling to the maximum extent and many developed countries have recycled waste plastics to manufacture various products, including some used in heavy construction, e.g. railway sleepers.

Studies have revealed that waste plastics have great potential for use in bituminous construction as its addition in small doses, about 5-10%, by weight of bitumen helps in substantially improving the Marshall stability, strength, fatigue life and other desirable properties of bituminous mix, leading to improved longevity and pavement performance. The RM & DD proposes use of waste plastic thus contributing in construction of green roads.

#### **10g. Slaughter House Waste**

The waste generated in slaughter houses is of liquid and semi solid nature and heavy in pollution. Slaughter houses in rural areas need to have a constant supply of water and also care should be taken to ensure that the waste matters that come out are not directed towards jhodos and open fields. The following points may be taken :

1. The Panchayat of the area verify the spot and ensure that all amenities is available before issuing license to anyone wanting to run a slaughter house
2. A proper disposal area inside the slaughter house for hides and unwanted skins is taken care of

3. In case the local bodies find inappropriateness and non compliance of the rules, they have enough powers to cease the shop and call for closure

#### **10h. Waste from Fairs/Exhibitions/festivals**

There is tremendous amount of waste that is generated from larger congregations like fairs and festivals in Sikkim and this is growing by the years. The amount of people involved in the process and the waste that is generated is tremendous. Solutions have come in initiatives from communities in rural areas including "back to roots" where usage of leaves as a replacement to plates, bamboo cups as a replacement to mugs and the likes is on the rise. This is not only an alternate to the large disposal of waste but also can be converted into eco-friendly sustainable compost. These events need to be incorporated as processes and Panchayats and local administration should be encouraged to further encourage self help groups to produce more alternates.

#### **10i. Grievances Redressal**

It is pertinent that a citizen's charter on grievances redressal be drawn and each Panchayat Unit across the state provided with the same so that any grievance that arises during the implementation of sanitation be addressed.

#### **11. Solid Liquid Resource Management Plans**

##### **Solid Resource Management**

##### **11a. Segregation at Source:**

It is imperative that stakeholders in rural Sikkim are further made aware of segregation at source and continued training intervention is provided to individual at household as well as community level towards this practice.

##### **11b. Two Bin Theory:**

To segregate and manage resources, it is directed that the two bin theory (one for dry waste and one for wet waste) is explained and demonstrated to the people in the villages. Eco friendly locally made bins to be used for collection to the utmost possibility

##### **11c. Bio Degradable Waste management in rural areas:**

It is observed that in villages, most of the compostable waste is given to domesticated animals and that the amount of wet waste is negligible compared to the ones that is generated in urban areas. However, there are some compostable waste materials (onion peels, garlic peels and such items) which are not consumed by animals. For such items, it is advised to be composed through vegetative composting.

##### **11d. Dry waste generation:**

It is seen that dry waste in rural settings are a mix of non recyclable plastics which comes as consumer durables and tiny sachets which clogs pipes and also acts as a deterrent for land aeration. Such plastics should be collected and utilized towards the making of salable products by individuals, Self Help groups or educational institutions in the area.

**11e. Self Help Groups:**

It is evident that the progress of the community is also marked by the involvement of its voluntary self help groups. These groups should be encouraged to make products out of non recyclable waste and the departments should ascertain a buy back mechanism of the products made at cost effective rates from the producers to encourage them to work more in the field.

**11f. Resource Segregation Centres:**

Community resource Segregation and recovery centres (RRC) have to be mandatory in all the Gram Panchayat Units across the state where hands on training is also imparted towards segregation of resources, mostly dry.

**11g. Weighing at resource centres:**

It has been observed that for better resource management and for generating further consciousness amongst the people of Sikkim on aspects of SLWM, it is imperative that the waste that comes to the RRC be weighed on a daily basis and subsequent steps taken for further reducing the same.

**11h. Garbage trucks to Gram Panchayat Clusters:**

A garbage truck for cluster of Gram Panchayat Units is essential for proper collection of the waste generated from homes

**11i. IEC campaigns:**

It is essential that to continue the process of sustainability, a lot of awareness campaigns have to be initiated on regular intervals so that people keep up with the motivation to keep their environment and society clean.

**11j. Use of locally available resources:**

With an intention to reduce plastic as a medium, emphasis should be provided to the use of locally available resources for collection of dry waste. *Dokos* made up of bamboo could be made as an alternate to plastic bins and wherever bamboos can replace plastic, the same should be done.

**11k. Participative Planning:**

It is essential that local communities are invited to participate in the planning for sustainability and maintenance of the open defecation free status of Sikkim. Special Gram sabhas to ideate and deliberate on this should be considered at periodic intervals. It should be mandatory that each Gram Sabha has SLWM as a part of their deliberations.

**11l. Training and Handholding:**

Special incentives have to be provided to progressive households, individuals and institutions across Sikkim following the protocol of zero waste and Solid Liquid Waste Management.

#### **11m. Competitions and reward mechanisms:**

People are positively engaged through competition and reward mechanisms. Care should be taken to ensure that periodic competitions are conducted in communities so that people are encouraged towards sustainability.

#### **11n. Documenting progress in communities:**

It is important that there is a provision for documenting the progress made by communities on a regular basis. This is essential as good initiatives become a process document which can be shared at a community level, state level and national level interventions.

### **12. Liquid Resource Management**

#### **12a. IEC on Liquid Waste:**

It is understood that there has not been much of an awareness on the management of Liquid Waste as most of the focus has been on Solid Waste Management. Awareness campaigns on the importance to understand and work towards liquid waste management is necessary as people in rural areas have not been oriented towards the proper utilization of liquid waste (grey water)

#### **12b. Grey Water Harvesting:**

Water coming out of kitchen waste and bathroom (non toilet) should be appropriately managed and harvesting of the same in small quantities should be done in rural areas. Hands on exposure and training on the subject is essential for the people to grasp the concept of grey water harvesting.

#### **12c. Community water harvesting:**

It is suggested that along with small household water harvesting techniques, underground community water harvesting techniques should be adopted so that water can be utilized by clusters during times of need. A cluster of 4-5 homes in a village can adopt underground community water harvesting in villages with the support of the Department.

#### **12d. Training on Liquid Waste Management:**

An ongoing intensive training campaign on handling liquid waste at household level and community level is necessary so that people are aware about the same.

### **13. Action Plan**

#### **Solid Waste Management**

#### **a. Segregation at Source:**

The initiative to segregate at source has been taken up by the Department and there have been many Gram Panchayat Units across the state where the same has been implemented. The

success ratio of the same has been in progress and the Department has been ensuring that more awareness interventions are carried out in all GPUs for the success of segregation at source.

**b. Two bins:**

Households in many parts of rural Sikkim have been provided two dustbins for segregation of dry and wet waste. Handholding and training have been provided to the ones who have received the same and the process is ongoing.

**c. Biodegradable waste management:**

Hands on Training on vegetative composting has been conducted successfully by several departments and the process will be continued at Gram Panchayat Levels

**d. Dry Waste Generation:**

Dry waste, especially the waste which comes as a form of non recyclable plastic has been converted into useful products by Self Help Groups, individuals and institutions. This endeavor will be further continued with the Department working closely with more SHGs and institutions and the Department will support these initiatives whenever required. Further sensitization would be carried on to field functionaries and panchayats requesting people living in far flung areas to bring their dry waste to town and dump it in the nearest collection centre/ dokos/meshed bins so that the garbage vehicles pick them and send it to RRCs.

**e. Encourage Self Help Groups:**

The Rural Management and Development Department has always encouraged self help groups across Sikkim and the same will continue in the future, be it training or with raw materials or marketing of finished products made of waste.

**f. Resource Recovery centres:**

It is the endeavor of the Department to expedite the construction of RRCs across Sikkim and adopt methodologies of segregation and training to the stakeholders

**g. Garbage Trucks to Gram Panchayat clusters:**

The effort of the Department in providing garbage trucks to cluster of Gram Panchayats will be further intensified as a part of clean Sikkim.

**h. IEC Campaigns:**

It has been the effort of the Department to conduct as many IEC programs as possible. Efforts have been shown to decentralize the budget of the IEC and provide powers with responsibilities to ADCs (Development) and BDOs to carry forward the sensitization program in their respective blocks.

**i. Use of locally available resources:**

It has been the effort of the Department to ensure that dry waste is collected in locally made *dokos* so that local and innovative products are used and there is a reduction in the use

that people and their communities are provided the most important space for meaningful sustainability. There would be several stages of activities which would be ongoing and for this it is imperative that community members are time and again provided adequate information and intervention on the same. Some of the important tasks that could be taken to further IEC are as follows -

1. Communicate further on the implications of Waste management through several channels of intervention
2. Educational institutions falling under the block be regularly sensitized and that visible behavioral changes be observed at an ongoing basis
3. Chapters on waste management be incorporated in social sciences textbooks for schools across Sikkim
4. Awareness through social media interventions at regular intervals
5. Components on menstrual hygiene to be incorporated as an integral part of SLRM and interventions on the same done at a regular basis

## **15. Tools and Components for interaction, Dissemination and input of information**

### **15a. Social Media**

It is important that awareness drives are carried through social media channels as it today is one of the quickest methods of information dissemination. Several campaigns and drives could be pushed through social media and information on SLWM could be furnished in the most interesting manner for public consumption.

### **15b. Print Media**

Newspapers and magazines are a good source of information and awareness generation and that this platform would be ideal to utilize for sharing information.

### **15c. Television**

Television is one of the most watched platforms by the people of Sikkim and partnering with local media houses would certainly take the communication to the grassroots.

### **15d. Radio**

FM Radio is another important element in terms of dissemination of information and the Rural Management and Development Department has taken initiatives earlier and will take this medium in the future for further messages.

### **15e. Hoardings**

Large hoarding spaces across blocks and rural spaces would go a long way in terms of spreading awareness amongst the people of rural Sikkim.

### **15f. Signages**

It is important that along the National and State highways there are signages placed

which mentions messages on sanitation and SLRM. Interesting signages put across these places would go a long way in driving home the message on sustainable sanitation.

#### **15g. Mass Awareness Campaign**

Mass awareness campaign in public spaces would be important to draw to attention the public participation and these campaigns done in places where there are high congregations of people would work positive for the people.

#### **15h. Interventions in educational institutions**

With sustainability as the major issue and future as the buzzword, it is important that the younger students in schools and colleges are intervened in large numbers so that there is further understanding and accountability towards sanitation and SLRM in the future.

#### **15i. Interventions in religious institutions**

It is observed that religious heads are important to spread the message of awareness with further conviction and that people are drawn towards believing them more. It will be desired that there would be special interventions in religious institutions on the subject of sanitation and that religious community members would be requested to spread the message of sanitation.

#### **15j. Interventions in medical institutions**

Special awareness campaigns would be conducted in PHCs, Hospitals and small centres catering to medical facilities so that there is more awareness amongst the officials working and also the public in general.

#### **15k. Engaging Self Help Groups and NGOs**

Self Help Groups and Non Governmental organizations have always been ground partners in terms of interventions and their support would be required and requested in the coming times for promotion of sanitation and SLRM in rural Sikkim.

### **16. Rural Tourism and SLRM**

It is a fact that there has been a substantial increase in the tourism footfalls over the last decade with the numbers doubling in the last three years. With the advent of tourists and visitors, there is invariably an increase in the waste generated in places of tourist interests, state highways and national highways. It is thereby imperative that an Eco friendly waste management policy benefitting improved business image of hospitality sector, reduced carbon emissions from the decreased transportation of waste, reduced costs due to smaller order requirements from suppliers, improved relations with stakeholders, reduced risks and liabilities, and health and safety benefits is taken into consideration. As rural tourism is the focus and on the rise in Sikkim it is important that there is Waste minimisation through redesigning products, changing societal patterns(education and training) and purchasing with eco-intelligence ("green" purchasing).

The factors that need to be integrated in the guidelines for SLRM in rural tourism is as follows -

1. Practice of segregation of waste shall be followed at source or other specific location by crew to adopt the quality composting for organic MSW.
2. Placing of locally made dustbin in order to avoid littering around the roads and waste exposure to street/stray animals.
3. Development of an organised official recycling process for helping live hood of collector and rag pickers with increase in quality efficiency of processing of waste.
4. Development of practice to control the mixing of various source of waste such as biomedical waste, slaughter house, markets, restaurants, hazardous waste (i.e., motor garage waste, containers etc,) and others.
5. Development of environmental friendly waste processing and safe disposal of waste.
6. Compliance to schedules made by revised draft MSW (Management & Handling) rule 2013, Gol, which is a mandatory for all urban local bodies.
7. Gender sensitive programming In Tourist areas Women were focused on as a special target group.

#### **17. Action Taken Report on Solid Waste Management Rules, 2016**

**Rule 11. Duties of the Secretary–in-charge, Urban Development in the States and Union territories**

**Rule 13.\*Duties of the Secretary–in-charge of Village Panchayats or Rural Development Department in the State and Union territory**

<b>Sl. No.</b>	<b>Action to be Taken</b>	<b>Status</b>
1.	Prepare a state policy and solid waste management strategy for the state or the union territory in consultation with stakeholders including representative of waste pickers, self help group and similar groups working in the field of waste management consistent with these rules, national policy on solid waste management and national urban sanitation policy of the ministry of urban development, in a period not later than oneyear from the date of notification of these rules.	State policy on solid waste management has been notified by the State Government
2.	While preparing State policy and strategy on solid waste management, lay emphasis on waste reduction, reuse, recycling, recovery and optimum utilisation of various components of solid waste to ensure minimisation of waste going to the landfill and minimise impact of solid waste onhuman health and environment	As laid down in the state policy
3.	State policies and strategies should acknowledge the primary role played by the informal sector of waste pickers, waste collectors and recycling industry in reducing waste and provide broad guidelines regarding integration of waste picker orinformal waste collectors in the waste management system	As laid down in the state policy
4.	Ensure implementation of provisions of these rules by all local authorities	Bye-laws has been framed to be adopted by localbodies

5.	Direct the town planning department of the State to ensure that master plan of every city in the State or Union territory provisions for setting up of solid waste processing and disposal facilities except for the cities who are members of common waste processing facility or regional sanitary landfill for a group of cities.	As laid down in the state policy
6.	Ensure identification and allocation of suitable land to the local bodies within one year for setting up of processing and disposal facilities for solid wastes and incorporate them in the master plans (land use plan) of the State or as the case may be, cities through metropolitan and district planning committees or town and country planning department.	Under consideration
7.	Direct the town planning department of the State and local bodies to ensure that a separate space for segregation, storage, decentralised processing of solid waste is demarcated in the development plan for group housing or commercial, institutional or any other non-residential complex, exceeding 200 dwelling or having a plot area exceeding 5,000 m.	As laid down in the state policy
8.	Direct the developers of Special Economic Zone, Industrial Estate, Industrial Park to earmark at least five percent of the total area of the plot or minimum five plots or sheds for recovery and recycling facility. As laid down in the state policy	As laid down in the state policy
9.	Facilitate establishment of common regional sanitary land fill for a group of cities and towns falling within a distance of 50 km (or more) from the regional facility on a cost sharing basis and ensure professional management of such sanitary landfills.	As laid down in the state policy
10.	Arrange for capacity building of local bodies in managing solid waste, segregation and transportation or processing of such waste at source.	As laid down in the state policy
11.	Notify buffer zone for the solid waste processing and disposal facilities of more than five tons per day in consultation with the State Pollution Control Board.	As laid down in the state policy
12.	Start a scheme on registration of waste pickers and waste Dealers.	As laid down in the state policy

\*The Secretary-in-charge of Village Panchayats or Rural Development Department in the State and Union territory shall have the same duties as the Secretary-in-charge, Urban Development in the States and Union territories, for the areas which are covered under these rules and are under their jurisdictions.

# 18. Action Taken Report on Solid Waste Management Rules, 2016

## Rule 15. Duties and responsibilities of local authorities and village Panchayats of census towns and urban agglomeration

Sl. No.	Action to be taken	Status	Budgetary Provision required (Rs. in lakh)
1.	Prepare a solid waste management plan as per state policy and strategy on solid waste management within six months from the date of notification of state policy and strategy and submit a copy to respective departments of State Government or Union territory Administration or agency authorised by the State Government or Union territory Administration.	State policy on solid waste management has been notified by the State Government	$32 \times 3 = 96.00$
2.	Arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location	Under implementation	$185 \times 5 = 925.00$
3.	Establish a system to recognise organisations of waste pickers or informal waste collectors and promote and establish a system for integration of these authorised waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste	As laid down in the state policy	$185 \times 1 = 185.00$
4.	Facilitate formation of Self Help Groups, provide identity cards and thereafter encourage integration in solid waste management including door to door collection of waste		$185 \times 1 = 185.00$
5.	Frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation	To be implemented	
6.	Prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorised agency	To be implemented as per bye laws adopted by the local bodies.	
7.	Direct waste generators not to litter i.e throw or dispose of any waste such as paper, water		

	bottles, liquor bottles, soft drink cans, tetra packs, fruit peel, wrappers, etc., or burn or bury waste on streets, open public spaces, drains, waste bodies and to segregate the waste at source as prescribed under these rules and hand over the segregated waste to authorised the waste pickers or waste collectors authorised by the local body	Mass awareness to be conducted as per the state policy	185 x 2= 370.00
8.	Setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorised waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black	To be implemented	32 x 5= 160.00
9.	Establish waste deposition centres for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal. Such facility shall be established in a city or town in a manner that one centre is set up for the area of twenty square kilometers or part thereof and notify the timings of receiving domestic hazardous waste at such centres	As laid down in the state policy	18 x 32 = 576.00
10.	Ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the State Pollution Control Board or the Pollution Control Committee	To be implemented	32 x 2 = 64.00
11.	Direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and handover to the waste collectors or agency authorised by local body	To be implemented	
12.	Provide training on solid waste management to waste- pickers and waste collectors	As laid down in the state policy	32 x 2 = 64.00
13.	Collect waste from vegetable, fruit, flower, meat, poultry and fish market on day to day basis and promote setting up of decentralised compost plant or bio-methanation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions	As laid down in the state policy	10 x 5 = 50.00

14.	Collect separately waste from sweeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation	To be implemented	32 x 1 = 32.00
15.	Set up covered secondary storage facility for temporary storage of street sweepings and silt removed from surface drains in cases where direct collection of such waste into transport vehicles is not convenient. Waste so collected shall be collected and disposed of at regular intervals as decided by the local body	To be implemented	185 x 1 = 185.00
16.	Collect horticulture, parks and garden waste separately and process in the parks and gardens, as far as possible	Under implementation	185 x 1 = 185.00
17.	Transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for onsite processing of such waste	As laid down in the state policy	185 x 1 = 185.00
18.	Transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility		32 x 15 = 480.00 (cost of RRV)
19.	Transport construction and demolition waste as per the provisions of the Construction and Demolition Waste management Rules, 2016	As laid down in the state policy	32 x 5 = 160.00
20.	Involve communities in waste management and promotion of home composting, bio-gas generation, decentralised processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility.  Scientific composting pits at sub division level to arrange refresher courses to villagers. Provision of machinery for processing of agri waste to enable farmers to convert their agri waste into processed waste.	To be implemented	32 x 5 = 160.00  8 x 5 = 40.00 4 x 10 = 40.00
21.	Phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the local body and wherever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector	Under implementation	

22.	<p>Facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilisation of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board.</p> <p>Preference shall be given to decentralised processing to minimize transportation cost and environmental impacts such as a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio- stabilisation of biodegradable wastes; b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;</p>	As laid down in the State Policy	$32 \times 2 = 64.00$
23.	Undertake on their own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule 1 for disposal of residual wastes in a manner prescribed under these rules		
24.	Make adequate provision of funds for capital investments as well as operation and maintenance of solid waste management services in the annual budget ensuring that funds for discretionary functions of the local body have been allocated only after meeting the requirement of necessary funds for solid waste management and other obligatory functions of the local body as per these rules	Common facility of urban local bodies to be utilised	$185 \times 2 = 370.00$
25.	Make an application in Form-I for grant of authorisation for setting up waste processing, treatment or disposal facility, if the volume of waste is exceeding five metric tonnes per day including sanitary landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be	NA (waste generated is less than 5 metric tonnes per day)	
26.	Submit application for renewal of authorisation at least sixty days before the expiry of the validity of authorisation	Will be complied with.	

27.	Prepare and submit annual report in Form IV on or before the 30th April of the succeeding year to the Commissioner or Director, Municipal Administration or designated Officer	Will be complied with.	
28.	The annual report shall then be sent to the Secretary - in- Charge of the State Urban Development Department or village Panchayat or rural development department and to the respective State Pollution Control Board or Pollution Control Committee by the 31st May of every year	Will be complied with.	
29.	Educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility;	Under implementation	$185 \times 1 = 185.00$
30.	Ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the workforce	Complied	$185 \times .50 = 92.50$
31.	Ensure that provisions for setting up of centres for collection, segregation and storage of segregated wastes, are incorporated in building plan while granting approval of building plan of a group housing society or market complex.	Will be complied with.	
32.	Frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the bye laws framed.	As laid down in the state policy	2.00
33.	Create public awareness through information, education and communication campaign and educate the waste generators	As laid down in the state policy	$185 \times 5 = 925.00$
34.	Stop land filling or dumping of mixed waste soon after the timeline as specified in rule 23 for setting up and operationalisation of sanitary landfill is over.	To be implemented	
35.	Allow only the non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and pre-processing rejects and residues from waste processing facilities to go to sanitary landfill and the sanitary landfill sites shall meet the specifications as given in Schedule-I,	As laid down in the state policy	

	however, every effort shall be made to recycle or reuse the rejects to achieve the desired objective of zero waste going to landfill.		
36.	Investigate and analyse all old open dumpsites and existing operational dumpsites for their potential of bio mining and bio-remediation and wheresoever's feasible, take necessary actions to bio-mine or bio- remediate the sites	NA	
37.	In absence of the potential of bio-mining and bio- remediation of dumpsite, it shall be scientifically capped as per landfill capping norms to prevent further damage to the environment.	NA	

**19. Time Frame for Implementation as per Rule 22**

Sl. No.	Activities	Time limit from the date of notification of rules	deliberation
1	Identification of suitable sites for setting up solid waste processing facilities	1 year	08 nos. of RRCs have been constructed and 03 are underconstruction.
2	Identification of suitable sites for setting up common regional sanitary facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more	1 year	No additional such regional sanitary landfill facilities have been identified but the landfills at Sipchu and Marchak, which are created by ULBs are being utilised.
3	Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities.	2 years	The Resource Recovery Centres are being used for segregation of non- biodegradable wastes into various components. The landfills at Sipchu and Marchak are employed as Sanitary landfills facilities. No separate landfill construction is planned for rurallocal bodies.
4	Enforcing waste generators to practice segregation of bio degradable, recyclable, combustible, sanitary waste domestic hazardous and inert solid wastes at source.	2 years	Massive awareness programmes are being carried out. Two bins system is employed for segregation of waste into bio degradable and non biodegradable components. Will shift to threebins over the next year.
5	Ensure door to door collection of segregated waste and its transportation incovered vehicles to processing or disposal facilities.	2 years	Under implementation.
6	Ensure separate storage, collection and transportation of construction and demolition wastes.	2 years	
7	Setting up solid waste processing facility by all local bodies having 100000 or morepopulation.	2 years	NA ( All Rural Local Bodies have low population below 1 lakh)

8	Setting up solid waste processing facilities by local bodies and census towns below 1 lakh population.	3 years	Common facility created by ULB being utilised.
9	Setting up a common or stand alone sanitary landfills by or for all local bodies having 0.5 million or more population for disposal of only such residual waste from the processing facilities as well as untreatable inert waste as permitted under the rules.	3 years	Common facility created by ULB being utilised.
10	Setting up common or regional sanitary landfills by all local bodies and census towns under 0.5 million population for disposal of permitted waste under the rules.	3 years	The landfills at Sipchu and Marchak are employed as Sanitary landfills facilities. The setting up of regional sanitary landfills is found extremely difficult due to hilly terrain and non availability of land.
11	Bio- remediation or capping of old and abandoned dumpsites.	5 years	NA